

DELTA PROTECTION COMMISSION

14215 RIVER ROAD
P.O. BOX 530
WALNUT GROVE, CA 95690
Phone (916) 776-2290
FAX (916) 776-2293
E-Mail: dpc@citlink.net Home Page: www.delta.ca.gov

**AGENDA ITEM #7**

July 14, 2000

To: Delta Protection Commission
From: Lori Clamurro, Delta Protection Commission Staff
Subject: CALFED Ecosystem Restoration Grant Proposals for FY 2001

CALFED's most recent grant proposal solicitation, that for FY 2001, was circulated in April 2000, with proposals due by May 15, 2000. CALFED staff received a total of 142 proposals, requesting a total of approximately \$263 million. This memo briefly describes additional proposals not included in the May 2000 memo. New projects are identified with an asterisk (*). *Please note that these proposals are currently being reviewed by CALFED staff and various technical and advisory panels; a decision on which of these projects will be funded is expected in October 2000.*

Studies and Planning**Feasibility Study: Ecosystem and Water Quality Benefits Associated with Restoration of Franks Tract, Big Break, and Lower Sherman Lake**

CA Dept. of Water Resources is requesting \$1,218,105 to evaluate the potential of creating ecosystem, water quality/supply, recreational, and other benefits at Lower Sherman Lake, Big Break, and Franks Tract by modifying remnant levees to inhibit salt trapping and restoring tidal marsh habitat. Tasks of the study include: forming an Integration Team (DWR staff and representatives from DPR, DFG, EBRPD, and the Delta Science Center); gathering data and defining a baseline; developing and calibrating a model; defining, modeling, and evaluating alternative restoration concepts; defining a preferred pilot program based on this information; and preparing a feasibility study report.

***San Joaquin River Dissolved Oxygen Depletion, Phase II**

CA Dept. of Water Resources is requesting \$2,534,372 to continue study and verification of the conceptual model for dissolved oxygen depletion developed during a previously funded proposal, and for preparation of a management alternatives evaluation. This proposal is seeking funding for continued research and management planning for the San Joaquin River from the Deep Water Ship Channel to Mendota Pool.

Restoration Strategy for the Yolo Bypass, Phase II

Yolo Basin Foundation is requesting \$467,147 to continue the technical research, planning, and stakeholder development efforts begun under the previously funded project to ensure necessary data, assurances, and support for implementation of potential habitat enhancement projects in the Yolo Bypass. This project would establish a baseline ecological condition for the Bypass, continue the public outreach process, conduct analyses (costs/benefits associated with potential enhancements, compensation for land-use changes, hydrologic/hydraulic impacts, and mitigation), and develop a Memorandum of Understanding addressing assurances required by landowners and other affected parties.

***Use of the Delta for Rearing by Central Valley Chinook Salmon**

CA Dept. of Fish and Game is requesting \$518,777 for this three-year research project. The proposal includes identifying the various ways salmon use the Delta (e.g., migration only or migration and rearing), the relative success of survival under varying conditions, and the relationship between use of the Delta and environmental conditions in the Delta versus use of upstream natal areas.

Juvenile Salmon Migratory Behavior Study in the North, Central, and South Delta Using Radio Telemetry

Natural Resource Scientists, Inc. is requesting \$210,000 (\$70,000 for each of three separable tasks: North Delta Study, Central Delta Study, and South Delta Study) to conduct an investigation on juvenile anadromous salmonid migratory behavior in the Delta. Information generated under this study would help determine if outmigration is influenced more by the movement of flow to the South Delta pumps or by tidally-influenced flows, and would identify important parameters affecting juvenile salmon migration. Juvenile chinook would be fitted with radio transmitters, released at specific Delta locations, and monitored to determine their individual behavior patterns as they migrate within the Delta channels.

The Influence of Flood Regimes, Vegetative, and Geomorphic Structures on the Links between Aquatic and Terrestrial Systems

U.C. Davis's Center for Integrated Watershed Science and Management is requesting \$2,341,090 (State funding source cost) or \$2,521,236 (Federal funding source cost) to augment a previously-funded CALFED project relating to multi-disciplinary monitoring and assessment in the Cosumnes watershed. The previously funded project ("Cosumnes-Mokelumne Paired Basin Studies") has yielded a program that incorporates the expertise of geologists, hydrologists, water quality, and wildlife biology into the study of linkages between river systems and aquatic ecology. This new grant proposal would bring in researchers from other disciplines (i.e., food web ecology, avian ecology, and riparian vegetation), to improve understanding of linkages among aquatic, terrestrial, and groundwater systems.

***Biological Assessment of Green Sturgeon in the Sacramento-San Joaquin Watershed**

U.C. Davis is requesting \$505,169 to conduct Phase III of a previously funded project focusing on the green sturgeons' biological characteristics and habitats. This proposal would continue to address areas of scientific uncertainty about green sturgeon, including new studies on juveniles' and adults' movements, to refine the conceptual model developed earlier in the project and improve management of the species.

***Transport, Transformation, and Effects of Selenium and Carbon in the Delta: Implications for Ecosystem Restoration**

U.S. Geological Survey is requesting \$3,361,160 to determine how the Delta transports and distributes materials from the rivers, evaluate transformations of selenium and carbon and their consequent distributions, and determine how transport and transformation of selenium will affect Delta and Bay food webs. Process studies would be conducted at Mildred Island, Franks Tract, and Threemile Slough.

***Using Benthic Macroinvertebrate Communities for Assessment of Adaptive Management Actions in Streams Supporting Anadromous Salmonids**

U.S. Geological Survey is requesting \$2,860,496 to conduct a five-year study on the present condition of macroinvertebrate communities in Central Valley streams that support populations of anadromous salmonids and are likely candidates for restoration actions. 116 sites on the San Joaquin and Sacramento Rivers and 16 tributaries would be sampled; detailed habitat and water quality measurements would be done at each site.

***Food Resources for Zooplankton in the Sacramento-San Joaquin River Delta**

U.C. Davis is requesting \$576,422 to assess the quantity and quality of food resources for copepods in various Delta habitats; this information will be essential for the success of restoration projects. The project will assess nutritional requirements of copepods, which habitats meet the requirements, how Delta food quantity and quality for copepods have changed over time, and evaluate the nutritional value of these copepods for fish production. This study will be carried out at U.C. Davis; samples will be collected from various sites in the Delta, including Sac River at Rio Vista, San Joaquin River at Sherman Island, Mildred Island, several sites in the Yolo Bypass, and several sites from Cosumnes floodplains.

***Bioaccumulation, Trophic Transfer, and Sublethal Effects of Hydrophobic Pesticides and Heavy Metals in Delta Invertebrates and Fish**

U.C. Davis is requesting \$863,252 for this three-year study. The proposals' main components are: measurement of bioaccumulation of hydrophobic pesticides and heavy metals in two invertebrate species; determination of the population structure and health of these species at selected sites; and measurement of the effects of dietary exposure to pesticides and heavy metals in white sturgeon and chinook salmon.

***Cosumnes River Comparative Rearing Research Project**

The Fishery Foundation of California is requesting \$103,705.50 to conduct fisheries research to eliminate scientific uncertainty regarding the value of mainstem river, floodplain, secondary channel, and non-natal tributary habitats as rearing habitats for juvenile salmon. This study would provide critical information on the relative density, fitness, and mortality factors associated with each of these habitat types. This research would be conducted in the Cosumnes River, from Wilton Road down to the confluence with the Mokelumne, and at TNC's Cosumnes Preserve.

***Sedimentation in the Delta and Suisun Bay**

U.S. Geological Survey is requesting \$1,367,684 to continue a previously funded study. The objectives are to describe the movement of sediment affecting habitats in the Delta and describe the availability of sediment needed for habitat restoration. This proposal would differentiate sedimentation between dry and normal years, document sediment-transport effects of restoration activities, test geomorphic hypotheses, and improve the conceptual model of sedimentation in the Delta.

***Monitoring and Assessing the Ecosystem/Water Quality in the SF Bay-Delta and Valley Region Using Remote Sensing and GIS Techniques**

U.C. Davis is requesting \$314,900 to develop remote sensing and GIS-based methods and procedures for monitoring ecosystem and water quality and conditions, map important environmental/ecological conditions, and provide a comprehensive assessment of ecosystem/water quality and ecological/environmental conditions for target species.

Kirker Creek Watershed CRMP Program

The Kirker Creek watershed is located in northeastern Contra Costa County and encompasses the eastern half of the City of Pittsburg; the watershed drains approximately 8,000 acres into the San Joaquin River near Browns Island. Contra Costa Resource Conservation District is requesting \$198,450 to facilitate, coordinate, and support the efforts of landowners, municipalities, community organizations, and industries of the Kirker Creek watershed to develop and write a watershed management plan.

Demonstration/Implementation Projects and Acquisitions

Staten Island Acquisition

The Nature Conservancy is requesting \$35,110,873 to acquire 9,200-acre Staten Island. This acquisition is part of a three-phase project; Phase I is the Staten Island Wildlife Friendly Farming Demonstration (described below), Phase II is fee acquisition of Staten Island (this grant proposal), and Phase III would include development and implementation of a habitat restoration program once the land has been acquired. This project as a whole would be designed to be consistent with flood control and water management activities in the East Delta.

Staten Island Wildlife Friendly Farming Demonstration

The Bureau of Land Management is requesting \$1,314,310 to improve existing management efforts on Staten Island for thousands of wintering waterfowl. This project proposes the construction of low cross levees and a high volume discharge pump station on Staten; these improvements would allow managers to increase the number of acres flooded, the duration of flooding, and the diversity of habitat during the winter. The project also proposes to conduct monitoring on waterfowl use and on water quality being discharged from Staten.

Cosumnes/Mokelumne Corridor Floodplain Acquisitions, Management, and Restoration Planning

The Nature Conservancy is requesting \$3,044,342 for the acquisition of fee and easement interest in one or more properties in the Cosumnes and Mokelumne floodplains. It is not yet known which properties would be purchased in fee and which would be purchased with easements; this will be determined after site-by-site analysis and negotiations. The project, once completed, would result in approximately 600 acres incorporated into non-structural flood management practices of the Cosumnes River Preserve; funding of this proposal (Phase I) would include start-up stewardship, baseline monitoring, and initial planning efforts on the purchased (fee and easement) properties.

***Fay Island Restoration Project, Phase I**

CA Dept. of Fish and Game is requesting \$744,148 for the first phase of a project which proposes to acquire and restore tidal action to a 98-acre island and 17-acre in-channel berm adjacent to it; Fay Island is located on Old River in the southern central Delta. This proposal would fund the land acquisition, restoration feasibility studies, and development of a restoration plan.

Restoration of Delta Floodplain Terraces through Bioengineering

Habitat Assessment & Restoration Team, Inc. is requesting \$1,200,000 to extend the biotechnical bank protection/restoration techniques underway on Georgiana Slough (Tyler Island), funded under two previous CALFED grants, to new areas. The applicant proposes to treat sites (totaling approximately 10,000 linear feet) at the following locations: Sacramento River on Brannan-Andrus Island; Steamboat Slough on Grand Island; Miner Slough (under the jurisdiction of RD 999); and additional areas along Georgiana Slough. This project would protect natural embankments from further erosion, reconstruct the natural berm either through recruitment of new sediment or by the addition of new soil fill, develop new riparian habitat through both planting and natural recruitment, and monitor the effectiveness of different biotechnical bank protection methods for sediment recruitment and habitat development and use.

Aquatic and Wetland Habitat Restoration for the Sun River Property

Wildlands, Inc. is requesting \$2,223,404 for full-scale implementation of a previously funded CALFED project. The previous grant was for the acquisition, restoration, design, and permitting of the 537-acre Sun River (a.k.a. Kuhn) property, located at the northeast corner of Lambert Road and Snodgrass Slough (within Stone Lakes National Wildlife

Refuge). The goal for the property with this grant request is to restore a mosaic of aquatic, perennial, and seasonal emergent wetland, riparian, and grassland habitats; restoration would involve recontouring and/or building levees, restoring backwater floodplain habitat and providing flood protection benefits. The completed project will also provide and enhance public use opportunities, including environmental education, wildlife viewing, hunting, boating, and fishing. The intent of this grant proposal is to complete restoration and initial monitoring on this property, then convey it to USFWS for long-term management.

Demonstration Project for the Protection and Enhancement of Delta In-Channel Islands (Phase II: Construction and Monitoring)

Association of Bay Area Governments (ABAG) is requesting \$1,037,150 to complete an ongoing CALFED pilot project to demonstrate the potential for biotechnical erosion control methods to protect disappearing Delta in-channel islands from further erosion and facilitate sediment accretion around the perimeter of the islands. The first phase of this project (planning and permitting) has been completed, and the applicant has already secured funding for the construction and monitoring of one in-channel island near Webb Tract. The three demonstration sites under this request include two unnamed in-channel islands in the channels surrounding Webb Tract, and Little Tinsley Island in the San Joaquin River just south of Empire Tract.

Franks Tract/Decker Island Wetland Habitat Restoration – Next Phase

CA Dept. of Water Resources, in partnership with CA Dept. of Fish and Game, CA Dept. of Water Resources, and Moffat & Nichols Engineers, is requesting \$16,651,604 for implementation of a previously funded CALFED project. The previous grant was for the planning, environmental documentation, and permitting for the construction of four habitat islands in Franks Tract; a Mitigated Negative Declaration was circulated June 1999 and is currently being revised based on public comment. Under this grant proposal, overburden material would be removed from the northern tip of Decker Island for construction of the habitat islands in Franks Tract and creation of 20 acres of aquatic, wetland, riparian, and upland habitats at the borrow site on Decker Island. The project would also include pre-and post-construction monitoring of the Franks Tract islands and Decker Island habitat.

Little Mandeville Island: A Project to Demonstrate Delta Levee and Shallow Wetland Habitat Restoration and Enhancement

Ducks Unlimited, Inc. is requesting \$17,289,673 to establish a pilot/demonstration project on this subsided island. The objective of the project is to obtain understanding of how the Delta ecosystem responds to multiple restoration activities focused on implementation of standard levee and biotechnical levee construction and enhancement, creation of submerged levee benches, mid-channel shoals, and shallow wetland habitats. Tasks include establishing a baseline of current conditions and determining the costs of restoration to tidal marsh and seasonal flooded wetlands, monitoring bird and fish usage, field testing various habitat enhancements techniques on levees and shoals, and comparing water usage and evapotranspiration on seasonal wetlands and farm fields.

***Rhode Island Floodplain Management and Habitat Restoration**

CA Dept. of Fish and Game is requesting \$1,092,000 to carry out the physical restoration on Rhode Island for which a feasibility report was completed pursuant to a previously funded grant. This proposal would restore the width, height, and stability of Rhode Island's levees to improve its fish and wildlife carrying capacity, increase shaded riverine aquatic habitat on the levees, and remove non-native invasive species. The interior of the island would remain shallow tidal marsh.

***Delta Tules: Assessment of Restoration Opportunities**

Habitat Assessment & Restoration Team, Inc. is requesting \$1,470,000 to conduct a study and pilot implementation project on the restoration of native tules as part of future projects. Tasks include identifying and mapping tule habitat conditions using GIS mapping and plant sampling methodologies, implementing a series of pilot tule restorations encompassing various environmental conditions, determining the stressors limiting tule growth, investigating the use of tules by native fish and macroinvertebrates, and developing a GIS model depicting sites with high potential for tule marsh restoration.

Rice in the Delta: A Pilot Project to Convert 10,000 Acres of Legal Delta Lands to Rice Production and Study the Effects of Rice Culture on Wildlife Benefits, Subsidence, and Water Quality

Ducks Unlimited, Inc. is requesting \$6,339,498 to test the hypothesis that conversion from corn to rice will appreciably decrease the soil subsidence rate in impacted areas, to determine the economic feasibility of growing rice in the Delta, and to analyze how conversion will impact water quality and wildlife habitat. This would be a three-year project, involving collecting preliminary information on economic feasibility and agronomic procedures from an existing pilot project of 1,000 acres of rice planted on Brack Tract, then holding workshops to present data and discuss an incentive plan to encourage landowners to convert their land to rice. Over years 2 and 3, implementation would include conversion of 5,000 acres of corn to rice each year.

Propagation/Establishment Techniques and Habitat Requirements for Special Status Plant Species

Bitterroot Restoration, Inc. is requesting \$150,737 to develop an understanding of seed physiology and germination requirements for target plant species (Mason's lilaeopsis, Delta tule pea, Suisun Marsh aster, Delta mudwort, and Rose-mallow). Tasks would include development of propagation protocol, determination of habitat requirements, and establishment of a pilot project. This project would utilize State-owned lands within the freshwater zone of the Delta; possible locations for plant propagule collection and habitat studies could include Delta Meadows, Franks Tract, or Calhoun Cut, and establishment plots covering a total of 1.1 acres would be planted at either Decker or Rhode Islands. The applicant is currently working with CA Dept. of Fish and Game to determine the best locations for this project; once locations are determined, the applicant will submit an application to conduct this project's tasks at each location.

***Lower Mokelumne River Restoration, Phase II**

Woodbridge Irrigation District and the City of Lodi are requesting \$680,000 to improve fish screening along the lower Mokelumne River downstream of Camanche Dam to the Cosumnes confluence. The proposal includes improving screens and the bypass system at Woodbridge Dam and evaluating the feasibility of installing state-of-the-art screens on small pump diversions.

***Stockton Channel Water Quality Restoration Project, Phase 2**

The City of Stockton is requesting \$350,000 for the second phase of a previously funded study (\$650,000 from US EPA) addressing techniques to restore the water quality of the Stockton Channel (in the area of downtown Stockton). This proposal would result in the final engineering design of the implementation plan, final environmental documents and/or mitigation plans, and obtaining required permits associated with constructing and implementing the preferred alternative. It would also include a pilot study of the preferred alternative to evaluate its effectiveness prior to full-scale implementation.

Biological Restoration Improvements and Monitoring in the Suisun Marsh/North San Francisco Bay Ecological Zone – Phase II: Importance of Ponds and Other Features along Marsh Channels

California State University, Hayward is requesting \$1,491,835 to conduct tidal marsh restoration and monitoring projects at various sites in Sonoma and Contra Costa counties (the easternmost site being at Big Break, near Antioch). This proposal is for Phase II of a previously funded CALFED project. Objectives for this three-year project include: restoring tidal action; providing ponds connected to marsh channels; identifying and ameliorating limiting factors for key species and their food webs within the restored marsh areas; and monitoring and comparing restored marshes to pre-restoration and natural marshes for productivity of fish and invertebrate populations.

Watershed Stewardship in Marsh Creek: A Project to Protect Water Quality in the Western Delta

Natural Heritage Institute, in conjunction with the Delta Science Center, the Cities of Brentwood and Oakley, and the Contra Costa County Flood Control District, is requesting \$640,122 to conduct watershed stewardship, planning, and restoration along Marsh Creek. The objectives of this proposal include: implementation of a Watershed Science Program in Marsh Creek to educate and involve local residents in stewardship and planning; development of a mitigation strategy for dealing with mercury contamination from upstream mines; and acquisition and restoration of the Griffith parcel (5 acres at the confluence of Deer and Sand Creeks with Marsh Creek, in Brentwood).

Environmental Education

Delta Studies Program: San Joaquin County Schools

San Joaquin County Office of Education is requesting \$102,097 (or \$306,291 over three years) to implement a San Joaquin County Delta Studies Program, focusing on aquatic and terrestrial habitats and ecological functions of the Delta. The Program consists of a Delta Studies Curriculum (based on the CALFED ERP's twelve topic areas), a Delta Education Resource Center housed at the San Joaquin County Office of Education, and training of a cadre of teachers to forward implementation of the Curriculum and provide leadership at targeted school sites.

Adopt-A-Watershed Leadership Institute

Adopt-A-Watershed is requesting \$592,884 to get more teachers involved in their Leadership Institute, which is comprised of a Summer Institute, team oversight and school district training during the school year, and a Spring Retreat for evaluation and further training. This grant would send ten new leadership teams to the Leadership Institute each year for three years (30 teams total). The requested funding is expected to render greater and sustained teacher interest in teaching watershed education for up to 3,600 teachers, establishment of sustainable community partnerships, and restoration and monitoring projects being done by 90,000 students over the three years. One of the teams being considered for the first year (starting July 2001) is the San Joaquin County Office of Education, based in Stockton.

Discover the Flyway II

The Yolo Basin Foundation is requesting \$197,987 over three years to expand teacher training opportunities and provide additional educational programs for volunteers and the general public.

***Bay-Delta Learning Initiative**

Water Education Foundation is requesting \$126,668 to produce and distribute educational posters on invasive species to boaters and anglers, to conduct its third annual Journalists Tour of the Bay-Delta, and to provide curriculum materials to K-12 teachers and hold workshops.

***Traveling Film Festival**

Independent Documentary Group is requesting \$70,900 to further expand the impact and reach of the previously funded Traveling Film Festival & Exhibition past the Bay Area and into other Central Valley cities.